"remarks" section. Witness Bradbury stated that the "remarks" section is unformatted and requires manual processing by BST. (TR 2857)

AT&T witness Bradbury stated that since the pre-ordering capability of LENS is not integrated with the ordering capability of EDI, the pre-ordering information must be manually entered into the EDI based order. (TR 2863, 2918) This is in direct contrast to BST's RNS and DOE systems which automatically populates pre-ordering information into the order. (Bradbury TR 2863, Calhoun TR 1420, 1439, 1443) Witness Bradbury stated that the capabilities inherent in BST's RNS and DOE systems are not provided at parity for ALECs. (TR 2915-2916)

Another form of manual intervention is performed on behalf of BST's Local Carrier Service Center (LCSC). The EDI and LENS ordering interfaces do not allow all orders to flow through BST's downstream systems to generate a mechanized order. (Calhoun TR 1232-1234) BST witness Calhoun stated that mechanized orders for PBX trunks, multi-line hunt groups, Synchronet services, and basic rate ISDN service can not be generated at this time, when placed via EDI. Instead, orders for these services drop out of the system and go to the LCSC, where the order will be processed manually. (TR 1237, 1316) The problem is that BST's internal ordering systems, RNS and DOE, allow orders for these services to flow through the downstream systems to generate a mechanized order. (Calhoun TR 1247, 1250) Therefore, BST has failed to provide services which it can order electronically, on an equivalent basis to requesting carriers.

Problem 6: Insufficient capacity to meet demand.

The intervenors do not believe that BellSouth has sufficient capacity to meet demand for orders. In support of this claim, the parties have cited the following problems.

The parties questioned the efficiency of BellSouth's Local Carrier Service Center (LCSC). BellSouth operates two LCSCs that interface with the ALECs for interconnection, UNEs, and resale orders. (TR 676) Witness Scheye stated that BellSouth does not use the LCSC for its retail operations. Instead, BellSouth has its own organizational group that performs analogous but different functions for BellSouth's retail customers. (TR 677) In addition, witness Scheye testified that the job performed by BellSouth's LCSC employees ultimately affects BellSouth's OSS where an order requires manual intervention. (TR 676)

On March 13, 1997, an independent consultant, hired by BellSouth, submitted its evaluation of BellSouth's LCSC operations in Atlanta, Georgia and Birmingham, Alabama. The consultant, Dewolff, Boberg & Associates, Inc., stated that the company's objective ultimately was to "reduce costs while improving manager, supervisor and employee effectiveness." (EXH 22, p.53) Intermedia cited to several parts of the consultant's analysis, stating that the problems identified by the consultant were having a direct, negative impact on the ALECs. For example, the consultant concluded that excessive errors and reworks were lowering the quality of BellSouth's service due to missed dates and excessive lead times. (EXH 22, p.56; TR 681) The consultant further stated that this "level of ineffective utilization is a result of unclear expectations, employee skills deficiencies, the lack of process documentation and control over the work flow." (EXH 22, p.56) The consultant linked these problems to BellSouth's supervisors who were described as "passive or reactionary," and who were not observed actively training employees. (EXH 22, p.58; TR 678)

After concluding the initial review of the LCSC's performance, the consultant and BellSouth conducted a 22-week study to improve the deficiencies noted in the March 13, 1997 evaluation. The study began on March 17, 1997, and was to conclude on August 15, 1997. On July 8, 1997, the consultant released the status report for the end of Phase II of the project. (EXH 22, p.36) ICI questioned witness Scheye about several of the problems identified by the consultant. The consultants found that the percentage of Local Service Requests (LSRs) that needed clarification during the week of June 25, 1997, was 64.6%. (EXH 22, p.37) In addition, the consultants stated that the average number of times that these LSRs were sent back to MCI and AT&T in order to complete the processing was 1.7 times. (Id.) Witness Scheye stated that this meant 64.6 percent of all orders submitted by AT&T and MCI needed clarification. He further stated that on average, the LCSC had to send these orders back to AT&T and MCI almost twice per order, before an error free LSR was received. (TR 685) Thus, witness Scheye concluded that BellSouth needed to provide some additional training or clarification to the carriers, so that fewer orders are submitted in error. (TR 684) Witness Scheye also stated that BellSouth can provide ALECs with all of the training materials to provide BellSouth with accurate orders, but it is up to each ALEC to provide BellSouth with error free orders. (TR 687)

Despite the problems cited above, BellSouth believes that it has sufficient capacity to meet demand. BellSouth stated that it has estimated that it would receive 5000 orders per day on a region wide basis, 4000 of which can be supported by EDI and 1000 supported by LENS. BellSouth also stated that it expects Florida

to account for 25% of the orders. (EXH 10, p.8) In addition, witness Calhoun stated that LENS was designed to handle pre-order activity in support of 5000 orders per day in the BellSouth region. (TR 1101; EXH 41) Furthermore, witness Calhoun stated that, "the combined peak daily ordering volume over the EDI and LENS interfaces has thus far been about 200 orders, which is significantly less than the current capacity of at least 5,000 orders per day." (TR 1102) Staff would note that there is no evidence in the record that documents how BellSouth derived its estimated pre-ordering and ordering capacity, nor is there any evidence estimating how many of the orders would be resale and how many would be for UNEs.

In response to the parties claims, Witness Scheye stated that there were problems revealed in the 22-week study. Witness Scheye further testified that the study, which ended on August 15, 1997, fixed all but one of the items identified by the consultants. The one outstanding item deals with the continuous improvement of BellSouth's LCSC. (Scheye TR 679) However, the record does not contain the final report by the consultants for the 22-week study.

Problem 7: Installation intervals not at parity with BST

ICI stated that it ordered and received a DS-1 loop from BST; however, it took BST six weeks to provide the loop. (Strow TR 2430-31, 2453) ICI witness Strow stated that BST typically provisions a DS-1 loop for itself in 1-2 weeks. (TR 2453)

Sprint/SMNI witness Closz stated that BST regularly misses its commitment to notify SMNI of any problems with a submitted order within 48 hours. Witness Closz stated that this results in missed installation due dates. (TR 2557) Also, SMNI has experienced problems with BST converting customers to SMNI for service. Witness Closz stated that a problem occurred after BST issued an internal order to provide SMNI a local loop. The incorrect order by BST twice resulted in an eighteen day installation interval. (TR 2558)

There was a lengthy discussion around the service interval for a loop/port combination at the hearing. This discussion centers on the FCC's rule 51.319(c)1(ii), which states that:

> An incumbent LEC shall transfer a customer's local service to competing carriers within a time period no greater than the interval within which the incumbent LEC currently transfers end users between interexchange carriers, if such transfer requires only change in the incumbent LEC's software.

Witness Gillan stated that BST must create an OSS that allows it to move customers between itself and new entrants using network elements, in the same interval that BST moves customers between IXCs, as long as no network reconfiguration is required. (TR 1841)

FCCA witness Gillan stated that BST has admitted that it has not proposed a service interval for the loop/port combination. (TR 1842; Stacy TR 1584) In addition, witness Gillan stated that BST does not provide the ordering capability for combinations of UNEs that are currently combined, because BST's position is that it will break apart the preexisting combination of UNEs and require them to be put back together again. (TR 1843-44) BST's witness Calhoun stated that she did not know if BST's ordering system is capable of accepting and generating an order for a preexisting loop/port combination, where the elements would not have to be taken apart and put back together. (TR 1339-40)

Staff believes that BST has a duty to provide access to any UNE that this Commission has determined is technically feasible for BST to provide. According to the 8th Circuit Court's decision, the RBOC is not required to perform the actual combining or connecting of the UNEs. (Iowa Util. Bd. V. FCC, Nos. 96-3321, *et al.*, 1997 WL 403401, at 36(8th Cir,. July 18, 1997) Therefore, the responsibility for actual connecting of network elements belongs to the ALEC. This Commission requires BST to provide combinations of UNEs to carriers in any requested manner. (PSC-1579-FOF-TP) The FCC requires RBOCs to provide combinations of UNEs and reiterated its own rule in the Ameritech Order by stating that for the provisioning of unbundled local switching that involves software changes only, the end user customers should be changed over in the same time interval as it takes the LEC to change over end users between IXCs. (EXH 1, FCC 97-298, ¶141)

As stated above in the UNE section above regarding the conflict between the language used by the 8th circuit in its order and the FCC's rule, staff declines to make a recommendation on the issue of a provisioning interval for an existing loop/port combination. The 8th circuit has been asked to review its decision on this issue. Since the 8th circuit has been requested to review its decision on the preexisting combination issue, the Commission has a pending proceeding, and that in staff's belief, BST fails this issue for other reasons, staff will not provide a recommendation. In addition, discussion on provisioning intervals for UNEs is addressed further in Issue 3(a).

Problem 8: Insufficient testing and test documentation

BellSouth entered 86 binders of testing information into the record as support for its compliance with the 14 checklist items and the SGAT. (Milner TR 928) The binders contain technical service descriptions, testing results, ordering procedures, provisioning procedures, maintenance procedures, and other information that BellSouth uses internally to respond to orders for UNEs and resold services by an ALEC. (Milner TR 929) Witness Milner testified that the end-to-end testing results contained within the 86 binders were performed to verify BellSouth's ability to respond appropriately to that order, whether it was submitted manually or via LENS or EDI. However, witness Milner testified that the electronic ordering systems, LENS and EDI, were not included in "end-to-end" testing processes. Witness Milner stated that "the end-to-end testing was not a test of the ordering vehicle." (TR 927-928) Further, witness Milner stated that when BellSouth conducted its end-to-end testing, BellSouth entered the instructions for the test in BellSouth's direct order entry (DOE) system, rather than in LENS or EDI. (TR 928) Witness Milner also testified that a very large amount of duplication was resident within the binders. For example, witness Milner stated that some of the documents contained in the binders were duplicated as many as 50 times. (TR 935-936) In addition, numerous places within the binders refer to draft or temporary instructions to show that BellSouth's methods and procedures are still evolving and changing. (Milner TR 929)

Staff does not believe that the internal testing results contained in the binders prove that BellSouth can actually provide the items. In addition, the testing results where not verified by an independent third party. The FCC stated in the Ameritech Order that it agrees with the DOJ on the standard for operational readiness, which is evidence of actual commercial usage. The FCC asserts that actual commercial usage is the most probative evidence of operational readiness. In addition, the FCC does not require an RBOC to ensure that ALECs are using all OSS functions available to them; however, the RBOC is charged with demonstrating that the reason an ALEC is not using a particular OSS function is strictly a business decision of the ALEC, rather than a lack of OSS function availability. The FCC states that it may consider other forms of evidence for commercial readiness if the RBOC can demonstrate why ALECs are not using all available OSS functions. The other forms of evidence that the FCC will consider, absent actual commercial usage are: carrier-to-carrier testing, independent third-party testing, and internal testing. (EXH 1, FCC 97-298, ¶138)

Staff believes that the manner in which BST performed its internal testing is insufficient to demonstrate that its systems and processes are capable of responding to an order placed by an ALEC in a manner that is at parity with BST's own abilities. Staff believes that end-to-end testing to demonstrate that ordering and provisioning of services must be done as if an ALEC was placing the order. BST performed end-to-end testing by using its own systems to demonstrate that it can provide service. However, not only do ALECs use different interfaces, but ALECs must also use different downstream databases to process orders. Therefore, BST has failed to demonstrate that ordering and provisioning functions placed through ALEC available systems do in fact, work at parity with BST's internal systems.

Ordering and Provisioning Summary

As discussed above, the intervenors cite many short comings with BellSouth's ordering interfaces. The problems raised by the intervenors demonstrate that BellSouth has not provided nondiscriminatory access to the ordering and provisioning functions. Based on the evidence in the record, staff has addressed the major problems presented by the parties.

LENS and EDI do not incorporate the same level of on-line edit capabilities as BST's internal interfaces. There is, therefore, a higher chance that orders will contain mistakes, which will be rejected by the downstream systems. The result of the limited edit capability, is that ALEC orders will take longer to actually be provisioned, then BST orders.

LENS and EDI do not provide an order summary screen as does RNS and DOE. This makes it very difficult and time consuming for an ALEC to verify a customer's order, while the customer is on-line. Staff believes that LENS and EDI must provide this capability.

Staff believes that the interfaces offered by BST must offer similar functionality. As stated above, pending orders placed via LENS or EDI cannot be accessed to make changes. Instead, a change order must be prepared. BST's internal interfaces provide the service representative the ability to access orders pending implementation.

In order for ALECs to develop their side of the interface, they must first receive technical specifications for BST's proposed interfaces. BST has not provided such specifications to requesting carriers.

As discussed above, there are three forms of manual intervention. Staff believes each of these types of manual intervention must be eliminated before the nondiscriminatory access standard can be met. Staff believes that in order to provide nondiscriminatory access to the ordering function, BellSouth must do the following: First, BellSouth must provide an interface that integrates the pre-ordering and ordering functions; second, BellSouth must provide ALECs with the same capability to generate electronic orders for the same services that BellSouth can electronically generate for itself; and third, BellSouth must provide the technical specifications necessary to permit ALECs to link their own OSS system to BellSouth's OSS. It is BellSouth's position that ALECs need to develop their own integration capabilities. However, BellSouth has not provided sufficient technical documentation for LENS that would enable ALECs to do so.

On the first and second points the FCC concluded that "in order to meet the nondiscriminatory standard of OSS, an incumbent LEC must provide to competing carriers access to OSS functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing that is equivalent to what it provides itself, its customers or other carriers." (EXH 1, FCC 97-298, ¶130) Regarding the third point, the FCC stated that a BOC is required to provide carriers with the technical specifications that will allow ALECs to modify or design their systems such that their OSS will be able to communicate with the BOC's legacy systems. (EXH 1, FCC 97-298, ¶137) The FCC further stated that BOCs "must provide competing carriers with all of the information necessary to format and process their electronic requests so that these requests flow through the interfaces, the transmission links, and into the legacy systems as quickly and efficiently as possible." (EXH 1, FCC 97-298, ¶137)

BST has not demonstrated that its systems can process the number of orders per day that it claims it can. The consulting firm hired by BST to perform an analysis of the Local Carrier Service Center (LCSC), stated in its report that BST has missed service implementation dates. In addition, BST has experienced problems providing firm order confirmations (FOCs) in a timely manner. This results in the ALEC not knowing when service was actually implemented, and has resulted in billing statements being sent to the end user by both BST and the ALEC. Although, BST claims that it is currently receiving approximately 200 orders per day, BST has not demonstrated that it can effectively handle this low volume of orders in an accurate and timely fashion. Therefore, staff does not believe that BST can currently meet service order demand requirements.

As stated above, staff will not provide a recommendation on matters related to currently combined UNEs. The discussion above related to the provisioning interval for an existing loop/port combination falls into this category and staff, therefore, provides no recommendation on the matter.

BST has not provided sufficient test documentation to prove that it is capable of providing those services not yet requested. Staff believes that the manner in which BST performed its internal testing is insufficient to demonstrate that its systems and processes are capable of responding to an order placed by an ALEC in a manner that is at parity with BST's own abilities.

Staff would note that correction of the deficiencies listed above would not necessarily mean that BST's interfaces meet the nondiscriminatory access requirement. Staff believes that of the problems raised by the intervenors, the most serious were discussed here. Staff believes that BST has the burden to prove that all of its interfaces meet the nondiscriminatory access requirements of the Act.

3. MAINTENANCE and REPAIR

Problem 1: TAFI is a proprietary system that does not provide ALECs with machine-to-machine functionality.

Witness Bradbury stated that TAFI is a human-to-machine interface that requires a new entrant to manually enter each trouble report order into the ALEC's own OSS, because TAFI does not allow electronic communication between BellSouth's OSS and a new entrant's OSS. Therefore, AT&T states that because new entrants must manually input the maintenance and repair data twice, instead of only once, the ALECs are denied the ability to operate in substantially the same time and manner as BellSouth. (TR 2876) However, BellSouth has the capability to submit maintenance and repair orders electronically for all types of service. (Bradbury TR 2879-80)

Witness Calhoun agreed that TAFI was not a machine-to-machine interface. (TR 1225) However, she contends that the TAFI interface is "intelligible to a human being" using this system. (TR 1226) In addition, witness Calhoun stated that TAFI is not an industry standard; however, she states that the functionality that TAFI provides is "far superior" to the level of functionality that the industry defines in terms of exchanging information about a trouble report. (TR 1224-1225) She also stated that TAFI can be used for any trouble identified with a telephone number, including

residential and simple business services, and some UNEs, such as an unbundled port, interim number portability, PBX trunks and ESSX station lines. (TR 1229)

Problem 2: The TAFI interface lacks sufficient capacity to meet demand.

AT&T stated that TAFI does not have the necessary capacity to meet the demand of all ALECs. In support of this claim, AT&T stated that TAFI currently has the capacity to support 195 simultaneous users in BellSouth's region if its "hot spare" arrangement is activated. Witness Bradbury stated that this capacity is insufficient, because AT&T alone has several hundred repair attendants that would all need to be logged into TAFI at the same time, just as BellSouth's repair attendants. (TR 2877)

BellSouth stated that TAFI has sufficient capacity to meet demand. Witness Calhoun testified that TAFI currently supports 65 simultaneous users with a second processor being installed that will double the capacity. In addition, she stated that BellSouth has a "hot spare" arrangement in place that can be activated almost immediately. The "hot spare" arrangement protects against equipment failure in case one of the main processors fails, and it would increase the capacity by an additional 65 users for a total of 195 simultaneous users. Further, for every 65 users, the TAFI system can handle 1300 troubles per hour. Witness Calhoun also stated that additional processors can be added within 60 days to increase the capacity, if needed. (TR 1102-1103; EXH 10, p.8)

Maintenance and Repair Summary

Staff believes that BellSouth must provide ALECs with the technical specifications of TAFI, so that ALECs can integrate their OSS with BellSouth's OSS for maintenance and repair. This electronic communication capability does not currently exist, therefore, an ALEC must manually reenter each trouble report into its own OSS system. In addition, staff believes that BellSouth must provide ALECs with the ability to have all of the ALECs repair attendants logged into TAFI at the same time, just as BellSouth's repair attendants, in order for the TAFI interface to meet the nondiscriminatory standard. The FCC concluded that "in order to meet the nondiscriminatory standard of OSS, an incumbent LEC must provide to competing carriers access to OSS functions for pre-ordering, ordering, provisioning, maintenance and repair, and billing that is equivalent to what it provides itself, its customers or other carriers." (EXH 1, FCC 97-298, ¶130)

4. BILLING

Although staff addressed billing problems related to UNEs above, billing capabilities are one of the functions of OSS and, therefore, apply here. However, staff will not repeat the discussion on the same problems again. To summarize, BST has not demonstrated that it can provide billing statements for usage sensitive UNEs.

OSS SUMMARY

A major area of concern with respect to the interfaces offered by BST, is the amount of manual intervention that is required on behalf of an ALEC service rep. The amount of manual intervention required when placing a non-complex order via the EDI interface is far in excess of how BST would place the same order. The primary problem is that BST does not provide a pre-ordering interface that is integrated with an ordering interface that provides these functions in essentially the same time and manner as BST's internal systems. In addition, the interface must provide the capability to interconnect the ALEC's own internal OSS to BST's OSS. BST has not provided the technical data to requesting carriers to permit the development of such interconnection. In the Ameritech Order, the FCC listed several components for the provision of access to OSS. These components include:

1. the interface, or gateway, which is used to inter-connect the ALEC's own internal OSS to an RBOC's OSS.

2. a processing link, either electronic or manual, between the interface and the RBOC's internal OSS (which includes all necessary back office systems and personnel).

3. all internal OSS or Legacy systems that an RBOC uses in providing UNEs to an ALEC.

According to the FCC, an RBOC must provide more than just an interface in order to comply with the nondiscriminatory access standard for OSS. BST has only partially provided part one, of the three components mentioned above. BST has provided interfaces, but the interfaces do not permit interconnection to the ALEC's OSS at this time.

The FCC states that in order for an RBOC to meet the nondiscriminatory access standard, no limits may be placed on the processing of information between the interface and the legacy systems, if such limits did not permit an ALEC to perform a

function in substantially the same time and manner as the RBOC performs the function for itself.

Staff believes that BST is required to demonstrate to this Commission and to the FCC, that its interfaces provide nondiscriminatory access to OSS functions. Although AT&T witness Bradbury stated that there are five characteristics of a non-discriminatory interface, staff recommends that the Commission recognize four of the characteristics. Staff believes that each interface must exhibit the following four characteristics in order for it to be in compliance with the nondiscriminatory standards of the Act. They are:

1. Interface must be electronic

   The interface must require no more human or manual intervention than is necessarily involved for BST to perform a similar transaction itself.

2. Quality, Efficiency, and Effectiveness

   The interface must provide the capabilities necessary to perform functions with the same level of quality, efficiency, and effectiveness as BST provides to itself.

3. Adequate Documentation

   The interface must have adequate documentation to allow an ALEC to develop and deploy systems and processes, and to provide adequate training to its employees.

4. Sufficient Capacity

   The interface must be able to meet the ordering demand of all ALECs, with response times equal to that which BST provides itself.

The fifth requirement as discussed by witness Bradbury, is that an interface must comply with national standards. Although staff agrees that an interface should comply with national standards, there are no national standards for pre-ordering interfaces. Therefore, staff believes that requiring an interface to be in compliance with national standards should not be considered necessary to demonstrate nondiscriminatory access. Therefore, BST's proprietary interface, LENS, could have been sufficient to meet the integrated interface requirement, if it met all four of the requirements of a non-discriminatory interface. Staff believes that BST must offer a pre-ordering interface that is

integrated with the industry-standard EDI interface, for two reasons. First, integration of pre-ordering and ordering function must be provided simply because BST has integrated its own internal pre-ordering and ordering functions; and second, because BST has declared that EDI is the ordering interface that it recommends carriers use.

In summary, staff believes that the interfaces and processes offered by BST do not permit an ALEC to perform an OSS function in substantially the same time and manner as BST performs the function for itself. In addition, the SGAT offers the same interfaces and OSS functions; therefore, the same problems identified above are applicable to what is offered via the SGAT. These deficiencies also render the SGAT non-compliant with the UNE portion of the checklist.

STAFF RECOMMENDATION

In summary, staff believes that BST has not met its duty to provide nondiscriminatory access to UNEs to requesting carriers. Staff agrees with the FCC that the RBOC must demonstrate that it is meeting the nondiscriminatory access standard for UNEs, including access to OSS functions, by offering an efficient carrier a meaningful opportunity to compete. (EXH 1, FCC 97-298, ¶141)

BST must demonstrate to this Commission that it is providing, to requesting carriers, access to UNEs per the requirements of the Act. As discussed above, staff believes that BST has not met this requirement.

The FCC concluded in the Ameritech order, that its requirement on RBOCs to demonstrate nondiscriminatory access to OSS functions is "achievable." The FCC stated: "We require, simply, that the BOC provide the same access to competing carriers that it provides to itself." (¶143)

Based on the evidence in this proceeding, staff recommends that the Commission find that BST has not met the requirements of Section 271 (c)(2)(B)(ii). BST has not fulfilled its duty to provide, to a requesting carrier, nondiscriminatory access to unbundled network elements, including access to its operations support systems functions as required by the Act, the FCC's rules, and this Commission's arbitration order.

ISSUE 3a Has BellSouth developed performance standards and measurements? If so, are they being met? **(Audu)**

RECOMMENDATION: Yes. BellSouth has developed performance standards and measurements. These performance standards and measurements are in the form of performance target intervals. However, the performance target intervals that BellSouth has established are not adequate to monitor post-entry nondiscriminatory performance for UNEs and OSS functions. **(AUDU)**

POSITION OF THE PARTIES

ACSI: No. BellSouth has neither provided nondiscriminatory access nor has the company developed performance standards or measurements.

AT&T: No. The performance standards and measurements proposed by BellSouth are insufficient to demonstrate parity or nondiscriminatory access.

BST: Yes. BellSouth has reached agreement for performance measurements with AT&T and with other ALECs. These measures ensure that BellSouth will provide the same level of performance to ALEC customers that BellSouth provides to its own retail customers. BellSouth has included in its Statement the same performance measures it has negotiated with AT&T in the parties' nine-state agreement. Initial report to date indicate that the negotiated performance measurements are being met.

FCCA: No. BellSouth has not developed sufficient performance standards and has not provided measurements of its own performance. Absent sufficient standards and information concerning BellSouth's own performance, neither new entrants or this Commission can begin to assess whether BellSouth is providing parity to its competitors, as required by the Act and FCC rules. For this reasons alone, the Commission must inform the FCC that BellSouth has not complied with § 271.

FCTA: No. BellSouth has failed to develop adequate performance standards and measurements. AT&T standards are not finalized and not adequate for facilities-based competitors.

ICI: No, BellSouth has not developed performance standards and measures specifically to Intermedia. Such performance standards necessarily should focus on both traditional voice services and advanced data services provided by BellSouth. Moreover, BellSouth has not provided the necessary empirical data for the Commission to

determine whether BellSouth is actually providing access to its network that is nondiscriminatory.

MCI: No. BellSouth has not developed sufficient performance measurements to determine whether it is providing checklist items in a nondiscriminatory manner. While BellSouth has agreed to some performance measurements in its various interconnection agreements, it has not established the standards which would demonstrate parity between itself and ALECs. The limited performance data to date shows that BellSouth is not providing access to OSS functions, UNEs, or resold services in a nondiscriminatory manner.

MFS/WorldCom: No. BellSouth has not developed or produced any statistically valid performance measurements that demonstrate that the proposed operational support systems ("OSS") meet the requirements of the Act.

Sprint: No. Sprint/SMNI have not been provided any data with respect to BellSouth's performance standards and measurements.

TCG: No. BellSouth has not developed performance standards and measurements that would allow it to demonstrate its compliance with any of the Section 271 Competitive Checklist requirements.

STAFF ANALYSIS:

INTERPRETATION OF THE ACT'S REQUIREMENTS

SECTION 271 REQUIREMENTS

Section 271(c)(2)(B)(ii) requires that access or interconnection provided or generally offered by a Bell operating company to other telecommunications carriers shall be nondiscriminatory in accordance to §251(c)(3). Section 271(c)(2)(B)(xiv) requires that telecommunications services available for resale shall satisfy the requirements of §251(c)(4). In addition, §251(c)(3) requires that the BOC shall provide the requesting carriers with nondiscriminatory access to the requested network elements, and §251(c)(4) requires that the ILECs shall not impose unreasonable or discriminatory conditions or limitations on the resale of such telecommunications services.

FCC'S INTERPRETATION OF SECTION 271 REQUIREMENTS

FCC ORDERS

The FCC recognized that not having access to the operations support systems (OSS) employed by the ILECs, and the information such systems maintain and update in order to administer telecommunications networks and services, could represent a significant potential barrier to entry. The FCC concluded that these systems determine the speed and efficiency with which incumbent LECs can market, order, provision, and maintain telecommunications services and facilities. (EXH 1, FCC 96-325, ¶516) The FCC further states that nondiscriminatory access to OSS functions can be viewed as the information contained in and processed by these operations systems. Such information can be classified as that which is sufficient for billing and collection or used in the transmission, routing, or other provision of telecommunications service. (EXH 1, FCC 96-325, ¶517) Hence, the FCC concluded that OSS functions are subject to the nondiscriminatory access requirements imposed by section 251(c)(3), and section 251(c)(4). The FCC determined that the information in these systems is critical to the ALEC's ability to compete with the ILECs using unbundled network elements or resold services. In addition, the FCC notes that absent any service interval information, maintenance histories, etc., ALECs would operate at a significant disadvantage with respect to the incumbent. The FCC concluded that if competing carriers are unable to perform the functions of pre-ordering, ordering, provisioning, maintenance and repair, and billing for network elements and resale services in substantially the same time and manner that an ILEC can for itself, the ALEC will be severely disadvantaged, if not precluded altogether, from fairly competing. (EXH 1, FCC 96-325, ¶518)

The FCC states that nondiscriminatory access to UNEs in accordance with section 251(c)(3) could mean the quality of an UNE that an ILEC provides as well as the access provided by that element. In addition, the access provisioned and the associated terms and conditions governing such access must be equal between all carriers requesting access to that element and where technically feasible. The access and UNEs provided by an ILEC must be at least equal in quality to that which the ILEC provides to itself. (EXH 1, FCC 96-325, ¶312, 315) The FCC also found that services made available for resale must be at least equal in quality to that provided by the ILEC to itself or to any affiliate or end users. This requirement includes differences imperceptible to end users because such differences may still provide ILECs with advantages in the marketplace. The FCC also required that ILEC services provisioned for resale shall be provided with the same timeliness as they are provided to the

ILEC's affiliates or the ILEC's end users. (EXH 1, FCC 96-325, ¶970)

AMERITECH ORDER

The FCC determined that Ameritech has the burden of demonstrating that it has met all of the requirements of section 271 including nondiscriminatory access to UNEs and resale services. The FCC determined that the access Ameritech currently provides for resale services is not equivalent to the access that it provides to itself on its retail local exchange operations. The FCC expressed doubts regarding Ameritech's ability to provide nondiscriminatory access to its systems, and concluded that evidence suggests that the quality of access will decline as commercial usage increases. (EXH 1, FCC 97-298, ¶158) The FCC noted, absent equivalent access to a BOC's OSS, many checklist items that require the use of OSS functions, such as resale of services and UNEs, would not practically be available. (EXH 1, FCC 97-298, ¶132)

Furthermore, the FCC noted that Ameritech's reliance on manual processing for the ordering and provisioning of resale services had directly impacted its actual ability to provision orders on a timely basis. The FCC concluded that,

> the reliance on a substantial amount of manual processing may violate Ameritech's duty to provide equivalent access when Ameritech's retail operation processes essentially all of its orders electronically. (EXH 1, FCC 97-298, ¶163, 196)

Thus, the FCC found that for Ameritech to demonstrate that it provides nondiscriminatory access, Ameritech must provide empirical evidence that compares its performance to that of a competing carrier. (EXH 1, FCC 97-298, ¶164)

Since Ameritech retails analogous services to those it provides for resale, the FCC determined that Ameritech must provide access and provision such service to ALECs just as it provides to its retail operations. The FCC determined that Ameritech's performance data had failed to demonstrate nondiscrimination. Most significantly, Ameritech did not measure and report average installation intervals for Ameritech's retail operations or for competing carriers. Thus, Ameritech's failure to provide average installation intervals for its retail operations or for ALECs provides Ameritech with the ability to mask discriminatory behavior. The FCC concluded that in order to demonstrate nondiscriminatory access to OSS functions, Ameritech

must demonstrate that it is provisioning resale orders within the same average installation interval as that achieved by its retail operations. (EXH 1, FCC 97-298, ¶166) Similarly, the Department of Justice noted that "[p]roviding resale services in substantially the same time as analogous retail services is probably the most fundamental parity requirement in Section 251." The FCC stated that data on average installation intervals is a critical measurement in determining nondiscrimination. (EXH 1, FCC 97-298, ¶168) Hence, without data on average installation intervals comparing Ameritech's retail performance with the performance it provided to ALECs, the FCC could not determine that Ameritech is providing nondiscriminatory access to OSS functions for the ordering and provisioning of resale. (EXH 1, FCC 97-298, ¶167) In addition, the FCC determined that Ameritech can and should disaggregate its data to account for the impact different types of services may have on the average installation interval. (EXH 1, FCC 97-298, ¶170) The FCC concluded that,

> Such data is direct evidence of whether it takes the same time to complete installations for competing carriers as it does for Ameritech, which is integral to the concept of equivalent access. (EXH 1, FCC 97-298, ¶170)

The FCC concluded that Ameritech had not provided the empirical data necessary to substantiate Ameritech's assertion of provisioning nondiscriminatory access to the OSS functions as required by § 271 and § 251 of the Act. (EXH 1, FCC 97-298, ¶209) In closing, the FCC provided these guidelines,

> ..., the appropriate empirical evidence upon which we could determine whether Ameritech is providing nondiscriminatory access to OSS functions, Ameritech should provide, as part of a subsequent section 271 application, the following performance data, in addition to the data that it provided in this application: (1) average installation intervals for resale; (2) average installation intervals for loops; (3) comparative performance information for unbundled network elements; (4) service order accuracy and percent flow through; (5) held orders and provisioning accuracy; (6) bill quality and accuracy; and (7) repeat trouble reports for unbundled network elements. In addition, Ameritech should ensure that its performance measurements are clearly defined, permit comparisons with Ameritech's retail operations, and are

sufficiently disaggregated to permit meaningful comparisons. (EXH 1, FCC 97-298, ¶212)

FCC RULES

FCC Rules regarding nondiscriminatory access to unbundled network elements require that the quality of an UNE, as well as the quality of the access to the UNE, shall be the same for all ALECs requesting access to that UNE from a given ILEC. In addition, to the extent technically feasible, the quality of an UNE, as well as the access to such UNE, that an ILEC provides to ALECs shall be at least equal in quality to that which the ILEC provides to itself. (47 C.F.R. § 51.311 a & b)

FPSC'S INTERPRETATION OF SECTION 271 REQUIREMENTS

In Order No. PSC-96-1579-FOF-TP, the Commission determined that BellSouth should provide telecommunications services for resale and access to UNEs at the same level of quality that it provides to itself and its affiliates. (Order No. PSC-96-1579-FOF-TP, p.74) In making this determination, the Commission agreed with the Act's nondiscriminatory requirement.

SUMMARY OF REQUIREMENTS BEING USED FOR THIS ISSUE

Section 271 requires BellSouth to provide nondiscriminatory access to OSS functions for both UNEs and resale services that BellSouth provides to all requesting ALECs. Similarly, the FCC in its First Report and Order requires that BellSouth shall provide UNEs and resale services that are at least equal in quality to that which BellSouth provides to itself or its affiliates. Thus, the FCC indicated that the use of manual processes directly impacts the ILEC's ability to provision services on a timely basis. BellSouth has the burden to demonstrate compliance with the requirement of nondiscriminatory provision of UNEs, resale services, and access to OSS functions.

In the Ameritech Order, the FCC determined that nondiscriminatory provision of UNEs, resale services, and access to OSS functions must be based on empirical evidence. By empirical evidence, the FCC meant the presence of actual operational data, and in the absence of such operational data, the FCC indicated that data resulting from the provisioning of analogous retail services could be used. Therefore, the required empirical evidence is the presence of measured and reported average installation intervals for both BellSouth and competing carriers. Also, the FCC determined that Ameritech can and should

disaggregate its data to permit meaningful comparisons of individual services, and that the provision of clear and precise performance standards and measurements are critical in ensuring that ALECs are provided nondiscriminatory access to OSS functions. Staff believes that this is consistent with Commission Order No. PSC-96-1579-FOF-TP, whereby BellSouth was ordered to provide telecommunications services for resale and access to UNEs at the same level of quality that it provides to itself and its affiliates.

STAFF DISCUSSION OF POSITIONS

To meet the nondiscriminatory requirement of Section 271, BellSouth has proposed to map its operational data distribution using a statistical quality monitoring system, namely the Statistical Process Control (SPC). To set up the SPC, BellSouth will analyze its historical data using statistical tools to determine a mean and standard deviation, and use the standard deviation to set the monitoring control limits. Using this SPC quality control chart, BellSouth will superimpose an ALEC's performance data to evaluate the competing carrier's operational data distribution for parity. (TR 1497) Staff believes that this method of evaluation skews the ALEC's performance analysis outcome, since BellSouth is superimposing the competitors' data on its own. Another potentially better method would be to set up two data sets (ALECs and BellSouth) which could be tested for statistical comparability.

Alternatively, AT&T and the other intervenors are proposing the use of the Local Competition User Group (LCUG) metrics. The LCUG has no corroborative supporting data, however, other than the intervenors' claim that these proposed benchmarks are based on their various operational experiences as IXCs. The intervenors claim that the LCUG's benchmarks provide for direct and meaningful comparison of two sets of performance data.

Issues 3a and 15a are derivative issues from the Act's requirement for nondiscriminatory provision of UNEs and resale services. (Sections 251(c)(3) & (4)) By nondiscriminatory provision, the Act intended that ALECs will have similar provisioning protocols and access to the ILEC's legacy OSS functions in comparable time frames, manner of access, functionality and capability, and information for both UNEs and resold services. (EXH 1, FCC 96-325, ¶517-518)

To establish the existence of nondiscrimination or parity, an ILEC has to provide a means of comparing its operational performance data to that of a competing carrier. Such an

instrument should be able to provide meaningful comparison between two sets of performance data in a rather simple but meaningful way. (Pfau TR 2178) The industry-at-large seems to agree that performance standards and measurements are the avenue via which the existence of nondiscrimination or parity will be established and monitored. (EXH 115) Thus, in its section 271 filing, BellSouth has furnished a set of performance standards and measurements that it purports will be useful in establishing and thereafter, monitoring the existence of nondiscriminatory provision of resale services and UNEs. (EXH 52, p.102) The question, therefore, is whether BellSouth's performance standards and measurements are adequate to detect discrimination as it relates to access to BellSouth's OSS functions, and has the nondiscrimination standard been met.

BellSouth's proposed Monitoring System

While BellSouth's witness Stacy contends that performance standards and measurements are not a checklist item required by Section 271, BellSouth argues that the existing Commission requirements are adequate to ensure on-going quality of service. (TR 1559) However, BellSouth's witness Stacy testified that BellSouth has established performance standards and measurements that were attached to his prefiled direct testimony. (EXH 51) Witness Stacy confirmed that the attached document is the same as BellSouth's measurements negotiated with AT&T pursuant to their interconnection agreement. (EXH 52, p.102; TR 1655) Witness Stacy states that BellSouth is still negotiating performance standards and measures with other ALECs, and further states that this same document has been filed along with BellSouth's SGAT. (EXH 52, pp.13-14)

BellSouth's witness Stacy testifies that the performance standards and measurements negotiated with AT&T were arrived at because they met the parties' individual business needs. (EXH 52, p.41) In the filed performance standards and measures, BellSouth has established performance target intervals that will be used to measure parity or nondiscrimination. (TR 1559)

AT&T's witness Pfau argues that BellSouth has a statutory requirement to provide nondiscriminatory access to its operational support systems and functions. (TR 2196) AT&T's witness Pfau asserts that Attachment 12 to AT&T's interconnection agreement is not necessarily relevant to this proceeding because Attachment 12 was constructed for the purposes of monitoring contract compliance and to allow AT&T's market entry. Thus, Attachment 12 is not fit to detect or monitor discrimination or

parity. Witness Pfau contends that Section 271 requires that when BellSouth provides service to ALECs, it has to provide that service in the same interval as it provides to itself. He further states that "[t]he FCC specifically recognized in its order that reliance on the interconnection agreements of filing BOCs could only be made after the FCC made a determination that the measures indeed showed that nondiscrimination could be detected." The AT&T's witness argues that the measures contained in Attachment 12 are not adequate to make a nondiscrimination or parity demonstration. (TR 2205, 2220)

AT&T's witness Pfau further argues that Attachment 12 was designed to monitor the operation of the interconnection agreement between AT&T and BellSouth. Witness Pfau states that one of the failings of this document is the fact that none of the interface measurements are incorporated. (TR 2211) Witness Pfau asserts that Attachment 12 is a representative subset of the necessary measurements needed to monitor the quality of support BellSouth provides to competing carriers. In addition, witness Pfau contends that Attachment 12 does not provide for meaningful comparison of performance. (TR 2178)

AT&T's witness Pfau asserts that a major flaw of Attachment 12 is that it is difficult to tell from this document how long it takes BellSouth to provide a service, and that most of the measures do not demonstrate that the specific target interval has any relevance to BellSouth's data. (TR 2220) Witness Pfau argues that the target-based measures that BellSouth uses are designed to monitor and compare performance to a fixed level of objective performance. (TR 2193) As an example the witness states that the

> ...percent due dates met is a target-based measure, the due date in this case being the target. The problem with these measures is they can mask discrimination. If two companies both experience 95% due dates met, it does not mean parity. One company could experience an average service delivery interval of one day, and the other could experience a four-day service delivery interval. BellSouth would say if both had the same percent due date met, then parity exists. (TR 2193)

AT&T's witness Pfau further contends that the primary contention with the use of target-based measures is the potential for masking discrimination. (TR 2225) Witness Pfau asserts that negotiated targets represent "[s]imply what the parties agreed BellSouth would be obligated to deliver in the absence of actual comparative data of BellSouth." (TR 2179)

What have the parties proposed?

- **BellSouth's performance target intervals and the SPC**

BellSouth's witness Stacy argues that BellSouth has established performance target intervals that will be used to measure parity or nondiscrimination. (TR 1559) BellSouth indicates that its retail analogues are the basis of its proposed target intervals. (EXH 52, p.35; TR 1560) BellSouth contends that these performance targets are adequate in demonstrating parity since these target intervals were set using BellSouth historical retail data. (EXH 52, pp.36, 38) However, BellSouth concedes that it does not provide UNEs to its end users; thus, it does not have any prior experience nor historical data upon which it can establish performance target intervals. (EXH 52, p.38) For services, such as UNEs, that BellSouth does not have retail analogues and prior historical data, BellSouth has derived performance target intervals based on its analysis and "best-effort" to allow the collection of data necessary to establish fact-based intervals. (EXH 52, pp.35, 40, 158; TR 1583)

To demonstrate nondiscrimination or parity, BellSouth has proposed the use of the Statistical Process Control (SPC) as a method of analysis and a reporting format (TR 1479) Witness Stacy argues that

> the SPC is a process control used, ..., in almost every industry, and particularly those who are interested in running a high-quality operation, to determine whether an existing process ... is operating in a controlled fashion, ... And there is a systematic method for taking a measurement on a process and determining whether the process itself is so-called in control or out of control. (EXH 52, p.68)

Witness Stacy asserts that BellSouth will use its historical and current operational data to establish statistical control parameters, and will use the process control chart to report BellSouth's and ALECs' performance. (TR 1479) BellSouth will use the SPC analysis to establish the average and the standard deviation, and set the lower/upper control limits at three standard deviations for the proposed control chart using its data. BellSouth's witness Stacy contends that with three sigma deviations, the SPC captures approximately 99.7% variability in the sample data. (EXH 52, pp.3, 158) Witness Stacy asserts that the ALECs' performance will be superimposed on this control chart for comparison, thus providing for a graphic comparison of BellSouth's and the ALECs' performance. (TR 17-18; EXH 52, p.34)

BellSouth's witness Stacy argues that its proposed performance target intervals are sufficient to detect and show nondiscrimination in its processes. Witness Stacy contends that BellSouth's proposed use of the SPC as a statistical method through which parity could be proven is fact-based. BellSouth insists that the SPC is a process control system that has been tested and proven to be adequate in detecting problems in controlled processes. Specifically, BellSouth argues that its proposed target intervals and the SPC are sufficient in establishing parity. (TR 1498; EXH 52, pp.34-35) Witness Stacy states:

> I believe it is a valid method for making comparison between the services BellSouth is providing to itself, its own retail units and to the CLECs and is a method that will be easily understood and easily visible to the Commissions over a period of time to prove that parity exists. (EXH 52, p.70)

- **AT&T's mean and variability tests**

AT&T's witness Pfau argues that performance metrics often monitor performance only against a given threshold value, and that

> measures oriented toward percentages of cases exceeding a target do not allow monitoring of nondiscrimination because the measure only tracks the frequency that a potentially arbitrary threshold is exceeded rather than monitoring and comparing actual performance experienced. (TR 2170)

Witness Pfau further argues that nondiscriminatory support is best demonstrated by comparing the ALEC's performance to the performance BellSouth delivers to its retail operation in the same or reasonably analogous situations. The AT&T's witness contends that in the absence of such analogous operations, benchmark targets, such as those provided in the LCUG, can be used to establish minimum levels of performance on an interim basis pending the development of performance measures. (TR 2173)

AT&T's witness Pfau argues that the SPC is not an adequate means for comparing two sets of performance for nondiscrimination. (EXH 71, p.12) Witness Pfau further argues that the SPC is designed for a single, stable operating process, whereby some observable patterns are obvious. He further contends that BellSouth is misapplying this monitoring tool by proposing to use it to observe multiple systems (BellSouth's and

the ALEC's); the witness asserts that "[w]e have already seen that their interfaces are different, so there ... you are using a different way to get to their legacy systems, ..." Witness Pfau asserts that these are new processes that lack the level of maturity to exhibit any stable performance. (EXH 71, pp.62-63) Witness Pfau argues that SPC is designed as a business decision criteria to elicit action when performance is outside some prescribed control parameters. Witness Pfau further argues that BellSouth's SPC will be slow to detect a discriminatory situation, and will only detect the most absurdly flagrant cases of discrimination. (TR 2227-2228)

AT&T's witness Pfau argues that BellSouth's measurements may actually hide discrimination. Witness Pfau urges that the Commission must require measurements that are specifically designed to monitor performance and detect discrimination. (TR 2192) The AT&T's witness disagrees with BellSouth's proposed measurements and argues that BellSouth's proposed measurements do not allow for direct comparison of any two sets of performance data. Witness Pfau insists that comparison is the only test and the basis for proving nondiscrimination. (TR 2191-2192; 2213)

Witness Pfau takes issue with BellSouth's use of three sigma deviations in its proposed use of the SPC. The AT&T's witness argues that the three sigma deviation control limits are not restrictive enough to detect discrimination. The witness contends that the three sigma deviation provides for a .25% probability of having an observation fall outside the control limits. (EXH 71, p.64) The AT&T's witness further argues that an ALEC is not worried if the performance is better; from the ALEC's perspective, it is only one side of the statistical bell-curve that is of significance. Since the ALEC is only concerned with one side of the bell curve, the .25% probability is now reduced to half; "[w]e are down to a little over a tenth of a percent probability that BellSouth would be brought in to explain performance that truly was well within bounds of parity." Witness Pfau contends that this provides too much protection for BellSouth. (EXH 71, pp.64-65) Witness Pfau asserts that in the use of statistical testing for performance, a 95% confidence interval (two sigma deviations) is generally used compared to BellSouth's proposed 99.7% (via the use of three sigma deviations). (EXH 71, p.65)

In the alternative, witness Pfau concedes that for the SPC to be a suitable tool in demonstrating parity, BellSouth's processes must be stable.

> You would need to have virtually identical processes, meaning you don't have the CLEC order fall out to a manual process and then get reinserted while the BellSouth order falls or goes directly through. And you would have to have a process whereby your upper and lower control limits were set in a proper manner, ... (TR 2235-2236)

AT&T witness Pfau insists that for the SPC to become suitable for monitoring nondiscrimination, the SPC must be set to efficiently detect nondiscrimination. Witness Pfau contends that this requires a time frame ranging from 6 to 12 months of data collection, and "[I] think Mr. Stacy said it takes six to nine months of data to build a historical track record." (TR 2235-2236)

AT&T witness Pfau argues that BellSouth could utilize a different statistical methodology to test for discrimination. The AT&T's witness contends that a mean performance test for both BellSouth and the ALEC would provide for direct comparison of the two sets of performance data. Witness Pfau further contends that a variability test, whereby the variability in an ALEC's performance is compared to the variability to BellSouth's retail performance, would be appropriate. Both of these tests, witness Pfau argues, must be conducted within a 95% confidence interval. The witness argues that with the proper operational data, these tests would allow one to determine when the testing results are materially different. (EXH 71, pp.66-67)]

Further, TCG witness Kouroupas contends that BellSouth does not provide measures for transport trunks for such activities as they relate to facilities-based carriers. (EXH 123, pp.13-14) Also, ICI witness Strow argues that BellSouth does not measure and monitor performance that relates to advanced data services. (Strow TR 2402).

- **The intervenors' proposed LCUG**

Several intervenors including AT&T have expressed interest in the LCUG proposed metrics as a representative sample of a "critical few" measures which could serve as the start of an effective measurement plan. (Pfau TR 2158; EXH 84, p.23) The intervenors contend that the LCUG measures could be construed as minimally acceptable measures for monitoring discrimination. These measures could be viewed as benchmarks that the LCUG believes are required in order to provide a competing carrier an opportunity to compete. These benchmarks are not based on actual sampling of ILEC performance, but instead, are based on IXCs' experience or what could be termed as "best of the class." (EXH